

Amendments to the Drawings:

The drawing sheet or sheets attached in connection with the above-identified application containing FIGS. 6A-6C, 7, 10-12, and 15A-15E are being presented as sheets to be substituted for the previously submitted drawing sheets. FIGS. 6A-6C, 7, 10-12, and 15A-15E have been amended. Appended to this amendment is an annotated copy of the previous drawing sheet which has been marked to show changes presented in the replacement sheet of the drawing.

Figures 6A-6C, 10, 11, and 15A-15E have been changed to include the legend "Prior Art."

Fig. 7 has been changed to delete the reference numeral "37" from the figure.

Fig. 12 has been changed to include the character "L2" between the surface wire 52 and the spacer 54, as described in the specification on page 22, lines 15-21.

Fig. 15C has been changed to delete the reference numeral "103a" from the figure.

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

In the specification, a paragraph has been amended on page 26.

Claims 4, 6, 11, and 16 are currently being amended.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-22 are now pending in this application.

The Applicant wishes to thank the Examiner for the careful consideration given to the claims and specification.

Priority

The Applicant wishes to thank the Examiner for the acknowledgement of the papers submitted under 35 U.S.C. § 119(a)-(d).

Objections to the Drawings

The PTO has objected to FIGS. 6A-6C, 7, 10-12, and 15A-15E for various minor informalities. The figures have been amended to correct these informalities.

Objections to the Specification

The PTO has objected to the specification for a minor informality. The specification has been amended to correct this informality.

Rejection of claims 4-8, 11, and 16-18 as being indefinite under 35 U.S.C. § 112

The PTO has rejected claims 4-8, 11, and 16-18 under 35 U.S.C. § 112, second paragraph, as being indefinite. For at least the following reasons, these rejections are traversed.

In regard to claim 4, the feature “the second wire being arranged in the vicinity of the first wire” was changed to “the second wire being arranged at a first distance of less than or

equal to 10 μ m from the first wire.” The rejection of claims 5-8 is traversed for at least the same reasons as claim 4 from which they depend.

In regard to claim 11, this claim has been amended to depend from claim 10 and to include the feature “the spacer is arranged at a position on the light-shield area that is farthest from the wire” which clarifies the location of the spacer on the light-shield area.

In regard to claim 16, the feature “the second wire being arranged in the vicinity of the first wire” was changed to “the second wire being arranged at a first distance of less than or equal to 10 μ m from the first wire.” The rejection of claims 17-18 is traversed for at least the same reasons as claim 16 from which they depend.

Rejection of claims 1-2, 4-7, 9-11, 13-14, 16-17, and 19 as being anticipated by the Instant Application’s Description of the Prior Art

The PTO rejected claims 1-2, 4-7, 9-11, 13-14, 16-17, and 19 as being anticipated by the Instant Application’s Description of the Prior Art (“Description of the Prior Art”). For at least the following reasons, this rejection is traversed.

Claims 1 and 13 include the feature “wherein a distance between the first wire and the second wire is more than or equal to 5 μ m.” One with ordinary skill in the art in view of the disclosure would interpret this feature to mean that the distance between the first wire and the second wire as claimed is the narrowest distance between them. Even FIG. 6A and the description given on pages 13-14 of the specification, which was relied upon by the PTO, indicate that the distance between the first wire and the second wire is the narrowest distance between them. As depicted in FIG. 6A, the distance measurement taken from the right-side edge of the first wire to the left-side edge of the second wire, which is the narrowest distance between them, is described as the distance between the first wire and the second wire. This distance is clearly less than 5 μ m since it is so stated in the figure itself where it says $L < 5\mu\text{m}$.

In addition, it is noted that FIG. 6A only indicates one dimension, which is the distance indicated as $L < 5\mu\text{m}$. FIG. 6A is not drawn to scale and provides no other dimensions in which one with ordinary skill in the art could use to even measure the distance from the left-side edge of the first wire to the right-side edge of the second wire. Thus, even the assertion that the distance from the left-side edge of the first wire to the right-side edge of the second wire is 5 μ m or greater, as suggested by the PTO, is incorrect because there is not enough information in FIG. 6A or the specification to make such a determination. “[I]t is

well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.” MPEP 2125 quoting (*Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000)).

For at least these reasons, the Description of the Prior Art does not anticipate claims 1 and 13. In addition, claims 2 and 14 are not anticipated by the Description of the Prior Art for at least the same reasons as claims 1 and 13 from which they respectively depend.

Claims 4 and 16 have been amended to include the feature “an insulator that is arranged to cover the entire exposed surface of at least one of the first and second wires.” The Description of the Prior Art does not disclose this feature. In particular, the Description of the Prior Art discloses a spacer 51 that partially covers the surface of wire 47, as seen in Fig. 10. In contrast, Fig 7 discloses a surface wire 38 that is not directly in contact with a liquid layer 36 because spacer 35 covers the entire surface of the surface wire 38. (Fig. 7 and page 17, line 4 to page 18, line 14.) For at least these reasons, the Description of the Prior Art does not anticipate claims 4 and 16. In addition, claims 5-7 and 17 are not anticipated by the Description of the Prior Art for at least the same reasons as claims 4 and 16 from which they depend.

Claims 9 and 19 include the feature “a spacer that is mounted on any one of the first substrate and the lower surface of the second substrate, with a distance of at least 5μm from the wire, and that prescribes a distance between the first substrate and the second substrate.” The PTO asserts that the Description of the Prior Art discloses a spacer 51 in FIG. 10 that is mounted with a distance of at least 5μm from the wire 33 when considering the distance measurement being from the left-side edge of the first wire/spacer to the right-side edge of the second wire. Essentially, the PTO has combined FIG. 6A with FIG. 10. As discussed above, FIG. 6A discloses a second wire being arranged at a distance of less than 5μm from the first wire at their narrowest distance and FIG. 6A does not include any other dimensions in which one with ordinary skill in the art could conclude that the first wire/spacer and second wire are arranged at a distance of at least 5μm. For at least these reasons, the Description of the Prior Art does not anticipate claims 9 and 19. In addition, claims 10-11 are not anticipated by the Description of the Prior Art for at least the same reasons as claim 9 from which they depend.

For at least these reasons, reconsideration and withdrawal of the rejection is respectfully requested.

Rejection of claims 3, 8, 12, 15, 18, and 20 as being anticipated by the Instant Application's Description of the Prior Art in view of Kwon

Claims 3, 8, 12, 15, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Description of Prior Art in view of U.S. Patent 6,486,930 ("Kwon"). For at least the following reasons, this rejection is traversed.

As discussed above, the Description of the Prior Art does not disclose that a distance between the first wire and the second wire is more than or equal to $5\mu\text{m}$ (as required by claims 3 and 15); that the second wire is arranged at a distance ranging from $5\mu\text{m}$ to $10\mu\text{m}$ from the first wire (as required by claims 8 and 18); and that a spacer is mounted on any one of the first substrate and the lower surface of the second substrate, with a distance of at least $5\mu\text{m}$ from the wire, and that prescribes a distance between the first substrate and the second substrate (as required by claims 12 and 20). Kwon fails to cure these deficiencies. For at least these reasons, reconsideration and withdrawal of the rejection is respectfully requested.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date 2/10/06

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 672-5426
Facsimile: (202) 672-5399

By 

Glenn Law
Registration No. 34,371

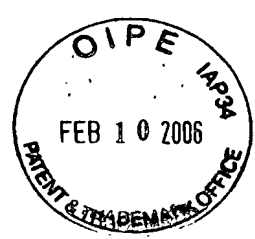


FIG.6A

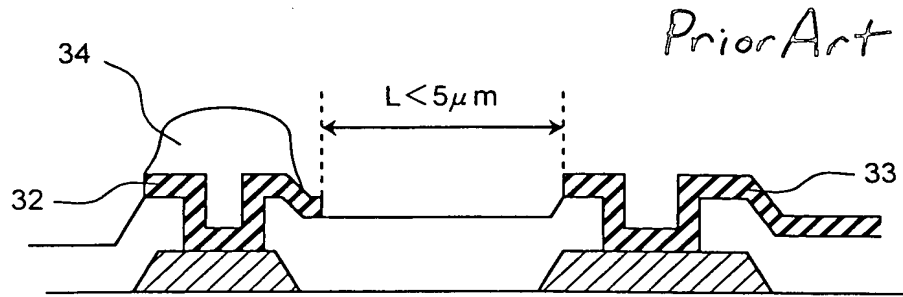


FIG.6B

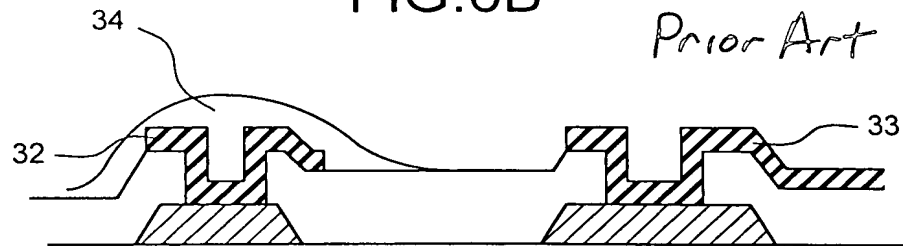


FIG.6C

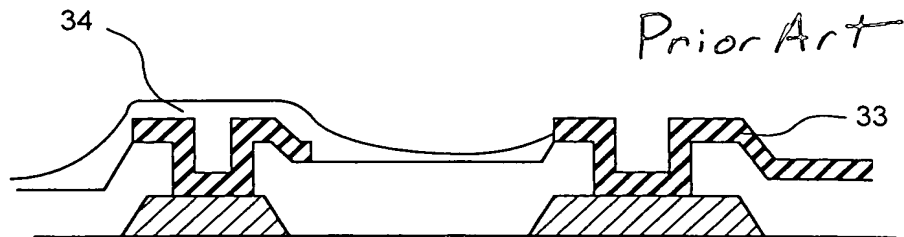


FIG.7

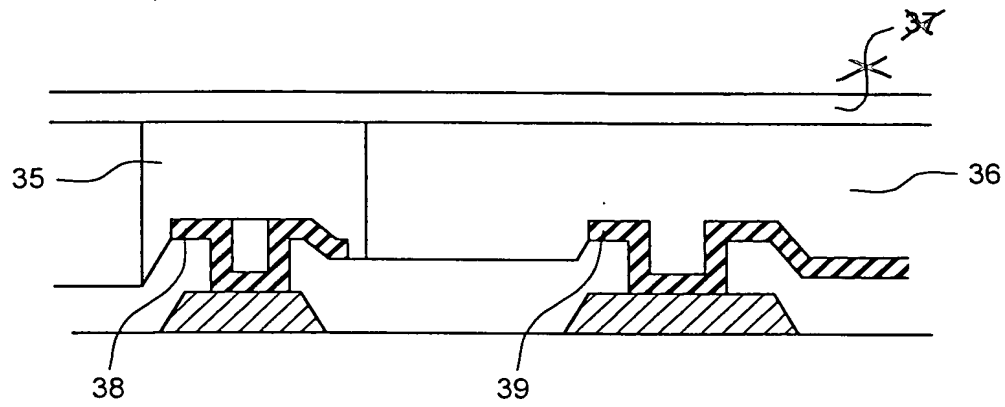


FIG.8

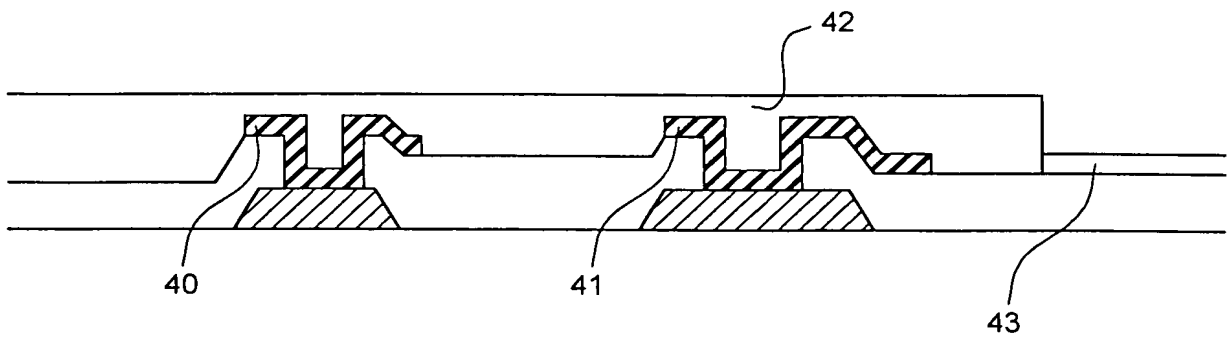


FIG.10

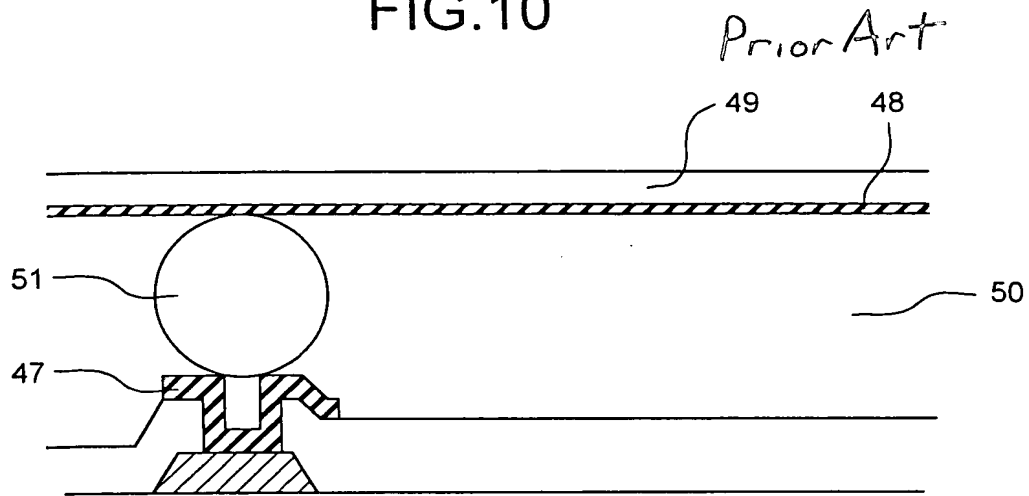


FIG.11

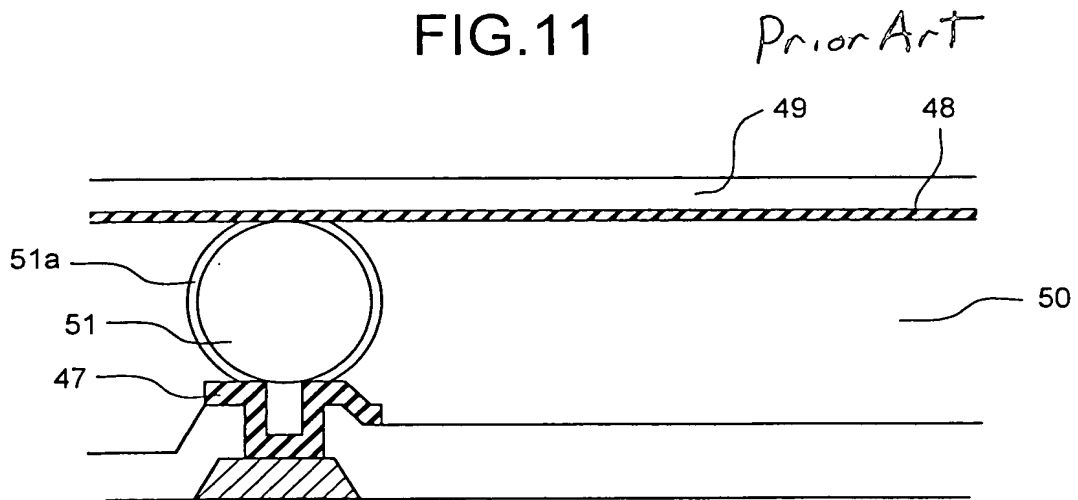


FIG.12

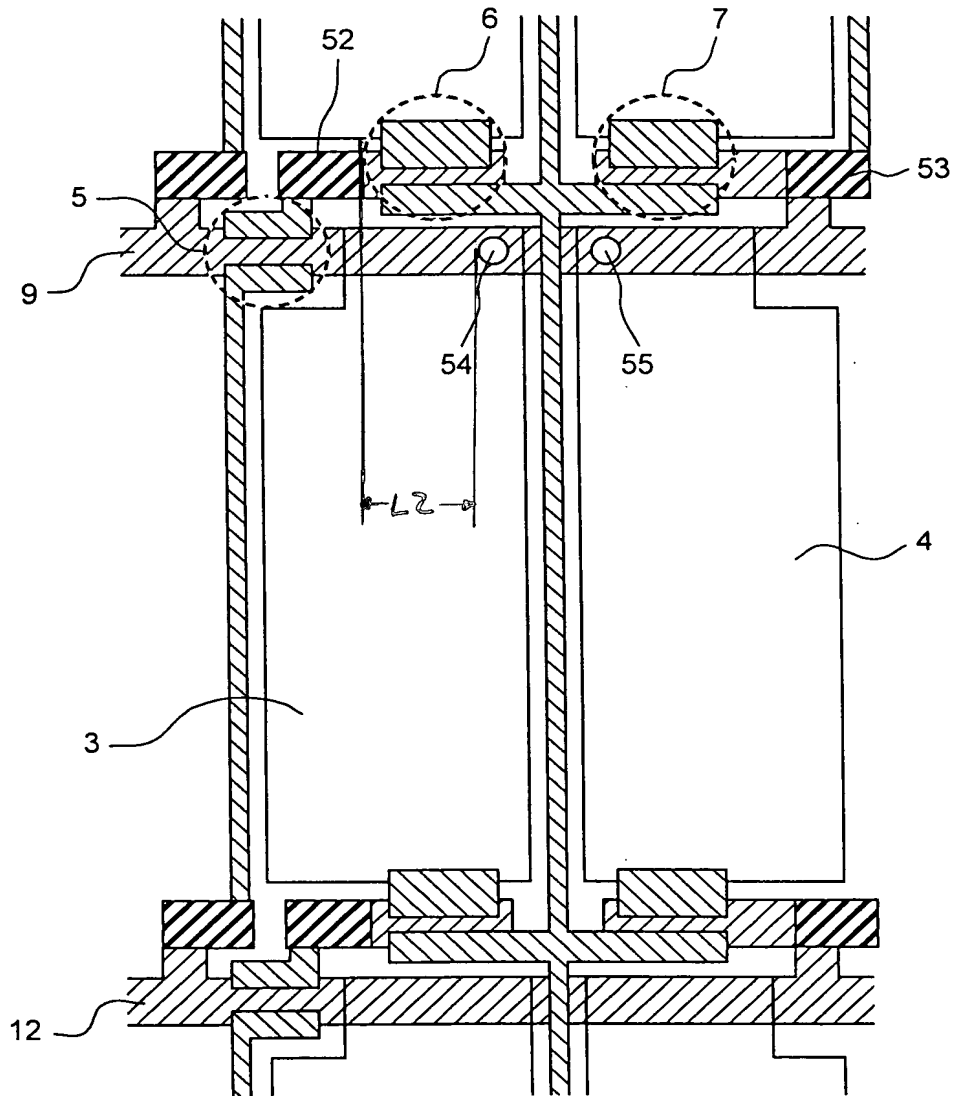


FIG.15A

Prior Art

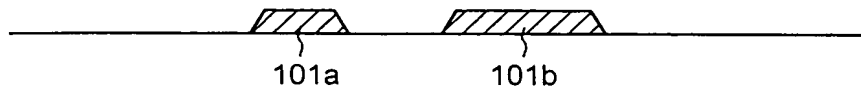


FIG.15B

Prior Art

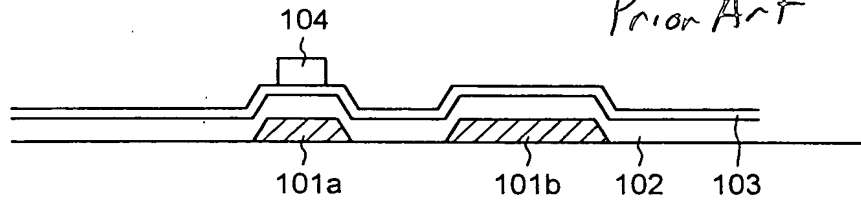


FIG.15C

Prior Art

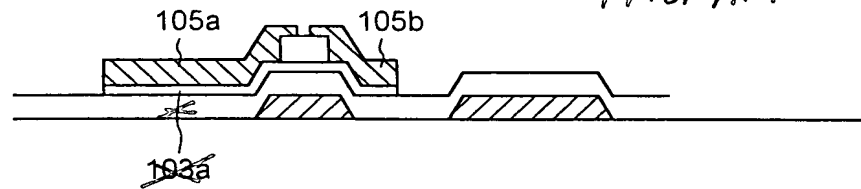


FIG.15D

Prior Art

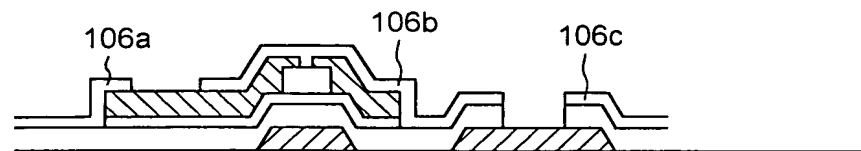


FIG.15E

Prior Art

